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(54) **APPARATUSES AND METHODS FOR FORMING CONCRETE CURBING**

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A01G 9/28 (2018.01)

(52) **U.S. Cl.**
CPC ***A01G 9/28*** (2018.02)

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CPC E01C 19/00; E01C 19/50; E01C 19/506; E01C 19/508; E04F 21/16; E04F 21/161
See application file for complete search history.

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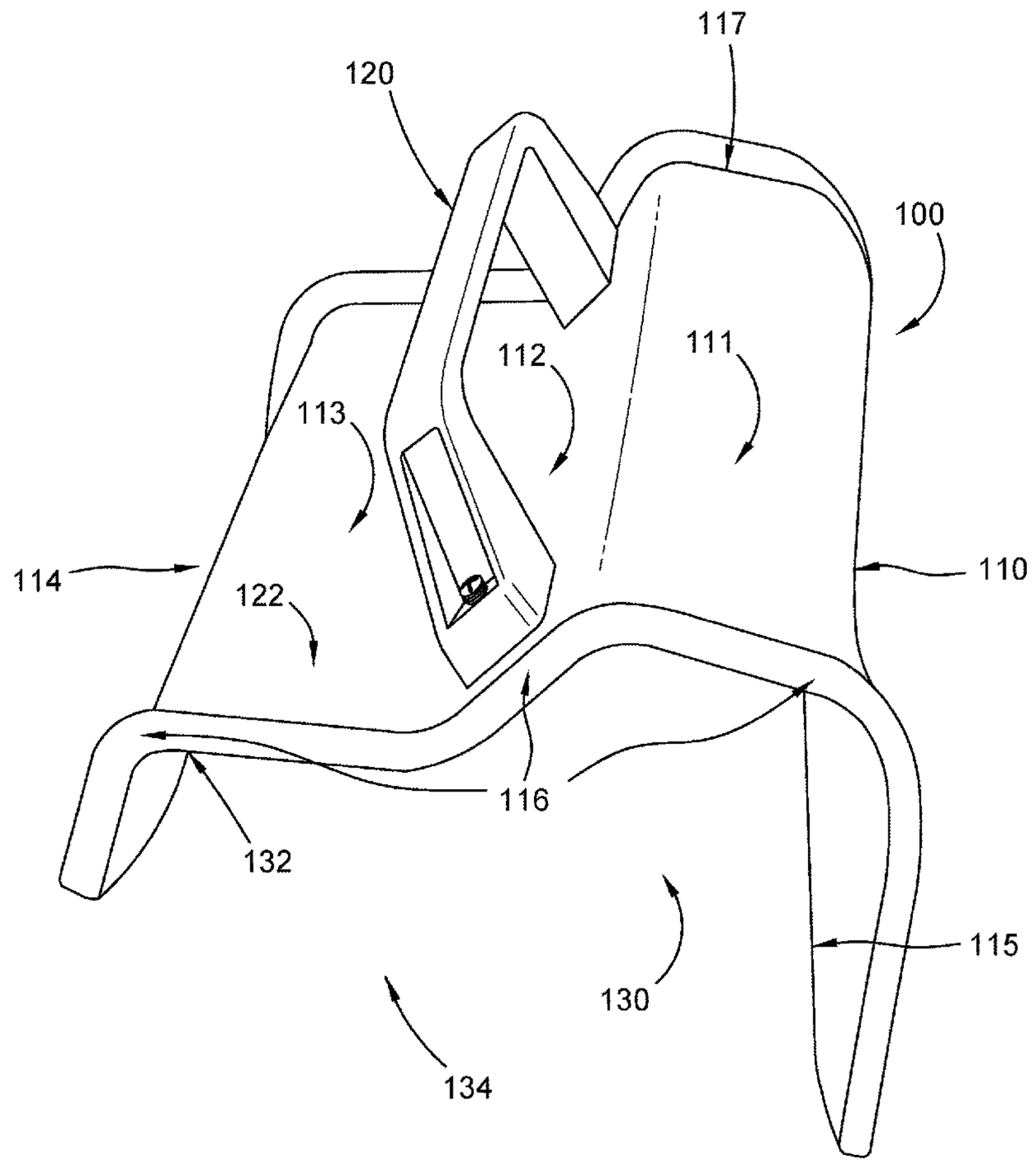
(57) **ABSTRACT**

A specialized curb forming tool and a method of using the tool to simply and easily create custom concrete curbing of any shape and length without complicated equipment or specialized expertise.

5 Claims, 5 Drawing Sheets



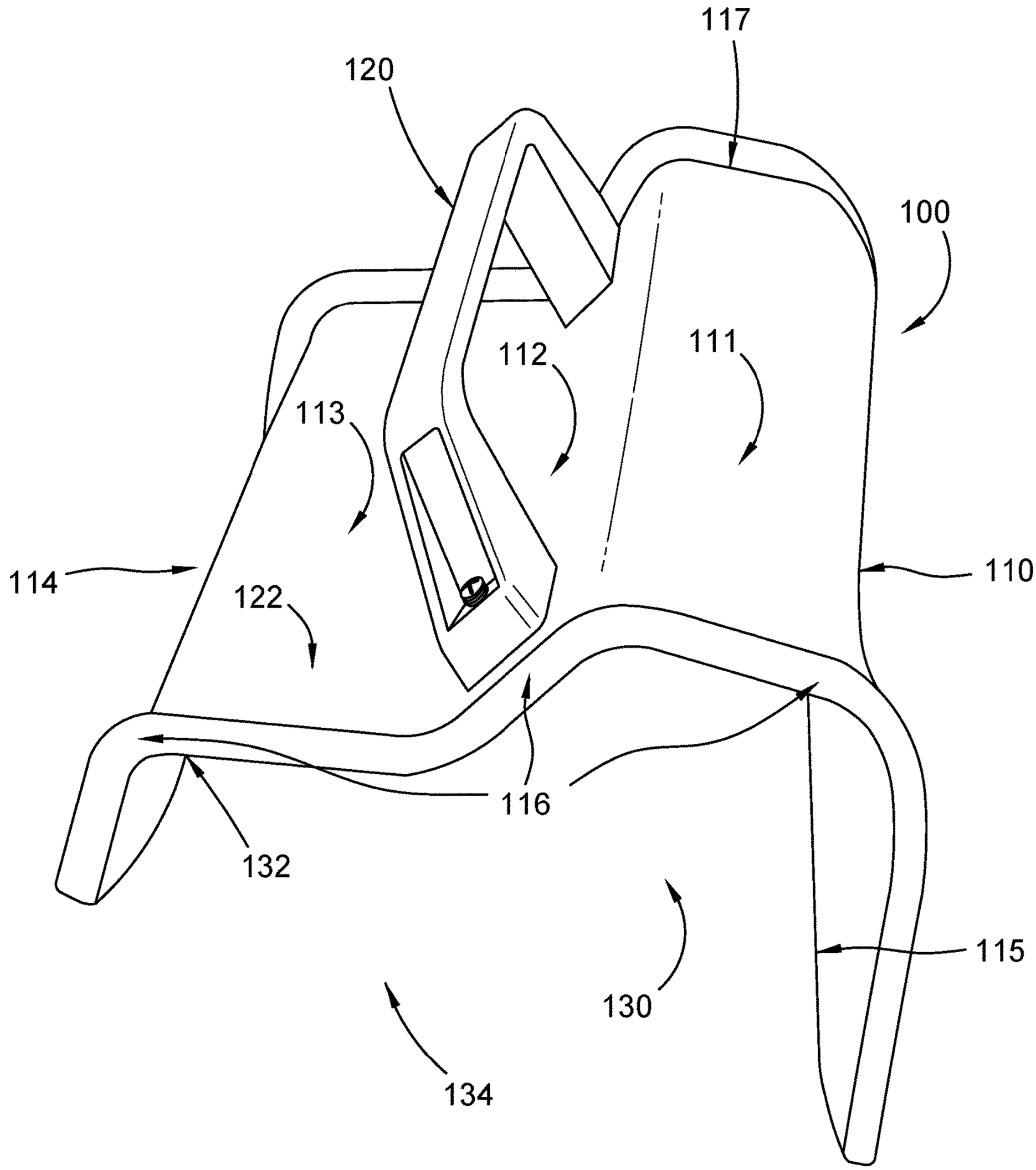


FIG.1

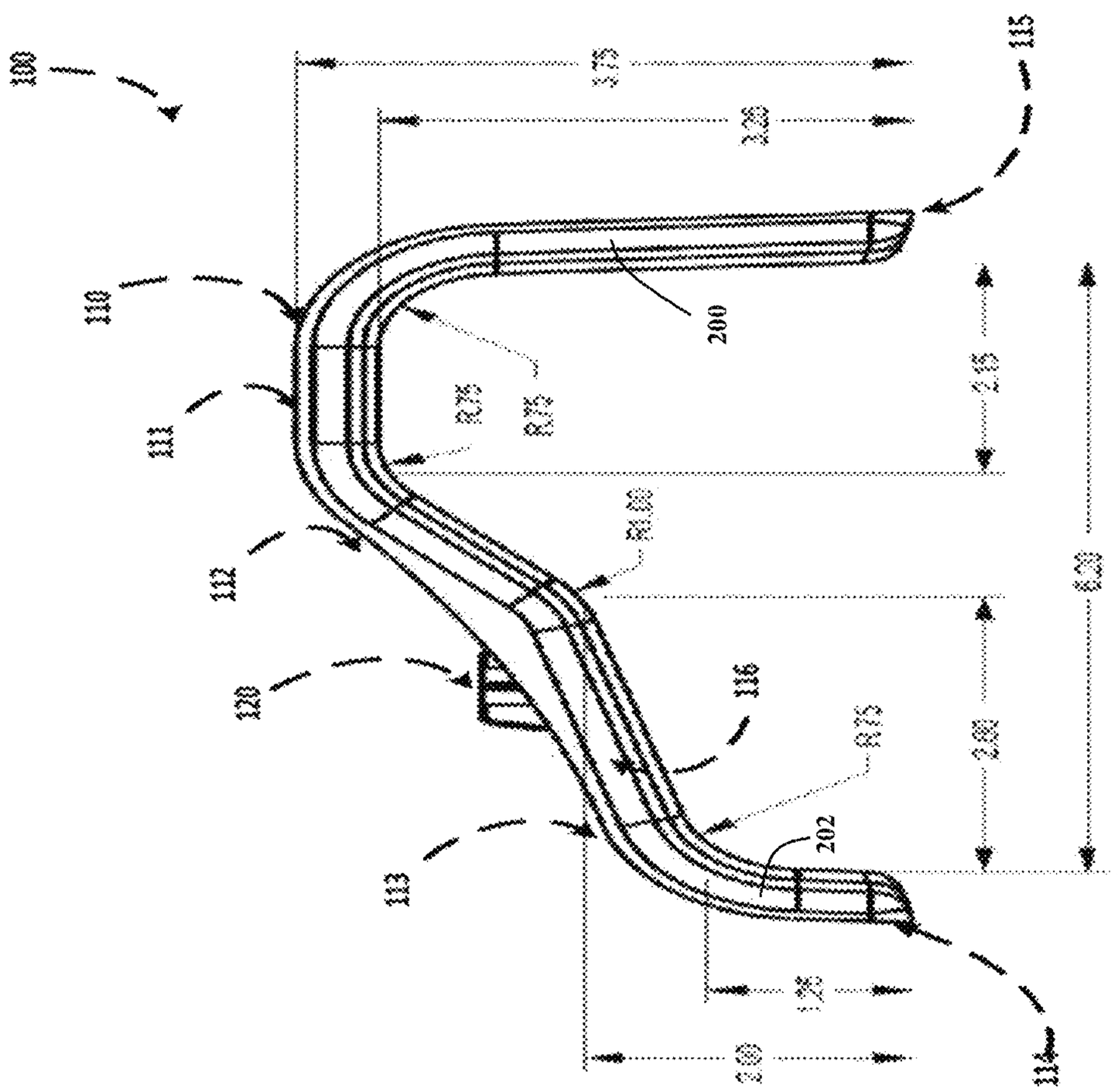

100
110
111
112
113
120
116
200
202
R.100
.875
.875
.875
2.15
2.80
3.30
3.75
2.25
1.25

FIG. 2

FIG. 3

FIG. 4

FIG. 5

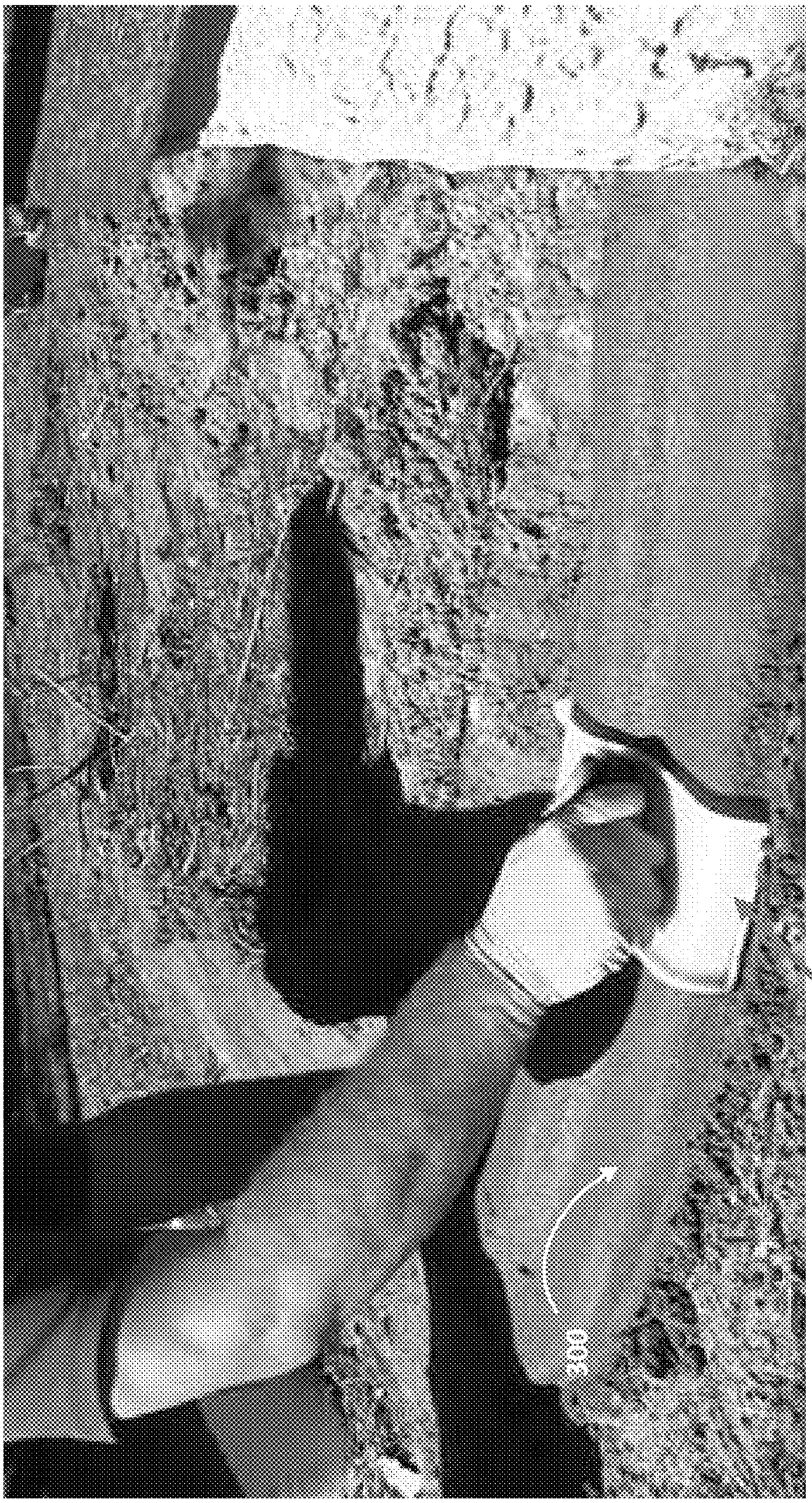


FIG. 6

APPARATUSES AND METHODS FOR FORMING CONCRETE CURBING

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Patent Application No. 62/340,721, filed May 24, 2016, the entire disclosure of which is incorporated herein by reference.

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FIELD

At least some embodiments disclosed herein relate, in general, to apparatuses and methods for forming concrete curbing and more specifically to the use of a specialized tool for the formation of concrete curbing of varying shapes and forms.

BACKGROUND

Homeowners and owners of commercial buildings commonly wish to provide beautiful landscaping for their homes and buildings. Such landscaping may include beds for various plants and other decorative items such as, for example statues or birdbaths. Such beds often have some sort of edging. Typical do-it-yourself edging that homeowners often install is made from bricks, stones, wooden pegs, or some sort of short fencing. Such that have some sort of edging around the beds. Such edging, however, is square, choppy, or flimsy, and may not be particularly attractive.

Alternatively, the homeowner could hire a contractor to install professional curbing. Unfortunately, such professional curbing can be expensive, costing over $16 a linear foot. The complicated equipment used to create professional curbing may well be beyond the skill of a typical homeowner to use, leaving the homeowner no choice but to hire a contractor or install substandard edging.

SUMMARY

In an embodiment, the present disclosure relates to a specialized curb forming tool and a method of using the tool to simply and easily create custom concrete curbing of any shape and length without complicated equipment or specialized expertise.

BRIEF DESCRIPTION OF THE DRAWINGS

The embodiments are illustrated by way of example and not limitation in the figures of the accompanying drawings in which like references indicate similar elements.

FIG. **1** illustrates a perspective view of an embodiment of a curb forming tool in accordance with the present disclosure.

FIG. **2** illustrates a side view of the curb forming tool in FIG. **1** including dimensions of the tool.

FIG. **3** illustrates preparing ground in a yard of a house for laying a curb in accordance with an embodiment of the present disclosure.

FIG. **4** illustrates packing cement into the curb forming tool as part of the method of forming a curb in accordance with an embodiment of the present disclosure.

FIG. **5** illustrates moving the curb forming tool off of packed cement in preparation for forming a next segment of the curb of FIG. **4** as part of the method of forming a curb in accordance with an embodiment of the present disclosure.

FIG. **6** illustrates using the curb forming tool to smooth the curb of FIG. **4** and FIG. **5** as part of the method of forming a curb in accordance with an embodiment of the present disclosure.

DETAILED DESCRIPTION

The following description and drawings are illustrative and are not to be construed as limiting. Numerous specific details are described to provide a thorough understanding. However, in certain instances, well known or conventional details are not described in order to avoid obscuring the description. References to one or an embodiment in the present disclosure are not necessarily references to the same embodiment; and, such references mean at least one.

Reference in this specification to "one embodiment" or "an embodiment" means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the disclosure. The appearances of the phrase "in one embodiment" in various places in the specification are not necessarily all referring to the same embodiment, nor are separate or alternative embodiments mutually exclusive of other embodiments. Moreover, various features are described which may be exhibited by some embodiments and not by others. Similarly, various requirements are described which may be requirements for some embodiments but not other embodiments.

FIG. **1** illustrates a perspective view of an embodiment of a curb forming tool in accordance with the present disclosure. FIG. **2** illustrates a side view of the curb forming tool in FIG. **1** including dimensions of the tool (excluding the width of the tool seen from the top of the tool, which in an embodiment is approximately 6.75")

With respect to both FIG. **1** and FIG. **2**, the curb forming tool **100** comprises a sheet **110** of rigid material. In the illustrated embodiment, the sheet **110** is a single portion of material. In other embodiments, the sheet **110** could be composed of two or more portions of rigid materials joined together. In such embodiments, each portion could be a different rigid material or the same material. In the illustrated embodiment, the thickness of the sheet **110** it is about ¼ inch. However it should be noted that the thickness of the sheet could vary based on the material used.

Various materials can be used, so long as they are relatively rigid. In the illustrated embodiment, the material used as a plastic. The plastic has the advantage of being cheap and easy to manufacture, and also provides a lightweight device that does not have sharp edges. Other materials that could be used include metal, wood, fiberglass, and silicone.

In the illustrated embodiment, the sheet **110** has a first side **116**. The first side **116** is curved upward adjacent to the edge of the first side. The sheet **110** also has a second side **117** which is similarly curved upward adjacent to its edge. Curbing the edge of the two sides **116** and **117** aid in providing a smooth surface to a curb that is formed using the

curb forming tool. The sheet **110** additionally has a first end **115** and a second end **114** opposing the first end **115** of the sheet **110**.

The sheet **110** is formed into a curved configuration having a top **111**, **112**, and **113** and a bottom comprising a space or volume **130** defined by bottom surface **132** of the sheet **110** between the first end **115** and the second end **114** of the sheet **110**. The curved configuration encloses a volume **130** that is in open communication with the first side **116** of the sheet **110**, the second side **114** of the sheet **110**, and the bottom surface **132** of the curved configuration of the sheet. With reference to FIG. **1** and FIG. **2**, the sheet **110** can also be seen having a top surface **122**, a bottom surface **132** opposing the top surface **122**, and the two sides **116**, **117** curving upwardly adjacent to the edge of the first side **116** with said edges terminating above the top surface **122** of the sheet **110**. The second side **117** opposes the first side **116** of the sheet **110**. A sheet width (as described above) separates the first side **116** of the sheet **110** and the second side **117** of the sheet **110**. The sheet **110** can also be seen having a rear wall **200** defining the first end **115** of sheet and spanning the sheet width. The sheet **110** can also be seen having a front wall **202** defining the second end **114** of sheet **110** and spanning the sheet width. The sheet has top wall portions **111**, **112**, **113** being formed into a curved configuration. The sheet **110** also defines a space **134** between the first end and the second end of the sheet **110**. The front wall **202**, the rear wall **200**, and the top wall portions **111**, **112**, **113** can be seen defining a volume **132** in open communication with the first side **116** of the sheet and the second side **117** of the sheet. The first and second sides **116**, **117** of the sheet **110** can be seen having the curved orientation along the sides **116**, **117** extending continuously and separating the first and second ends **114**, **115** of the sheet **110** to easily create custom concrete curbing of any shape and length without complicated equipment or specialized expertise (as described above).

In the illustrated embodiment, the top of the curved configuration of the sheet **110** is segmented into three distinct flat surfaces, a first flat surface **111**, a second flat surface **112**, and a third flat surface **113**. The first flat surface **111** is connected to the second flat surface **112** at a first angle, and the second flat surface **112** is connected to the third flat surface **113** at a second angle.0

Configuring the top of the curved configuration in three flat surfaces gives curbs formed by the curb forming tool **100** a distinct appearance. Other embodiments are possible, for example, a single flat surface which leads to a rectangular curb. Alternatively there could be two, three, four, five, or more flat surfaces at various angles to one another. Note that the dimensions of the tool given above and in FIG. **2** represent only one possible embodiment, and the dimensions of the tool could be larger or smaller without altering the functions of the tool or its use.

In the illustrated embodiment, the curb forming tool **100** additionally comprises a handle **120** attached to the second flat surface **112** of the sheet **110**. The handle **120** enables the tool to be used more easily, as should be apparent when the use of the tool is described below.

The handle **120** could be attach to various positions on the top of the curved configuration of the sheet **110**, for example the flat surface **111** or the flat surface **113**. The handle **120** can be any shape suitable for the effective use of the tool. The handle **120** can be separately attached to the sheet **110**, or could be an integral part of the sheet **110**, and could be composed of any suitable material. In the illustrated embodiment, the handle is composed of an inexpensive lightweight plastic different than that composing the sheet **110**.

FIG. **3** through FIG. **5** illustrate an exemplary use of and embodiment of the curb forming tool of the present disclosure to cast a curb for a portion of land in a typical homeowner's yard.

FIG. **3** illustrates preparing ground in a yard of a house for laying a curb in accordance with an embodiment of the present disclosure.

In the illustration, a homeowner is clearing a strip **210** on a portion of land **200** using a shovel. The strip **210** is cleared of loose dirt, vegetation, and any other loose materials. The homeowner need not dig into the ground, as the curb will set right on the surface of the strip **210**. The strip **210** could, of course, be cleared using any conventional means suitable to the task. In clearing the strip **210**, the strip is given a visible edge **220**. The strip **210** could be as long or short as the homeowner desires. Furthermore, the strip **210** could be linear, or could be curvilinear, or any other shape the homeowner desires. In FIG. **3**, the strip **210** is curvilinear.

FIG. **4** illustrates packing cement into the curb forming tool as part of the method of forming a curb in accordance with an embodiment of the present disclosure.

In the illustrated embodiment, the process of casting a curb on the strip **210** is begun at one end of the strip **210**. The curb is cast in a plurality of curb segments. FIG. **4** shows the casting of the first curb segment of the curb.

The process of casting this segment is as follows. The curb forming tool **100** is placed on the strip **210** such that the first and of the curb forming tool **100** is adjacent to the visible edge of the strip **220** and the bottom of the curb forming tool sits on the strip. (i.e. flat on the ground.)

The volume of the curb forming tool **100** is then packed with a cement mixture at the first side of the curb forming tool. In the illustrated embodiment, this requires about two handfuls of cement mixture. This forms a curb segment.

In an embodiment, the cement mixture is a mixture of sand and Portland Cement. In an embodiment, the ratio of sand to Portland Cement is 4 to 1. and sand. Finer sand will produce a smoother finish than coarse sand. Premix concrete is less desirable, as it typically contains rocks and will not form a smooth curb. Additionally it requires too much water and will not hold freestanding as is necessary to create good curbs

Regardless of what materials are used in the cement mixture, the cement mixture should have a consistency that ensures the mixture once formed using the curb forming tool will hold its shape until it dries. Thus, a particularly wet cement mixture, and typical premix concrete mixtures, are not suitable.

FIG. **5** illustrates moving the curb forming tool off of packed cement in preparation for forming a next segment of the curb of FIG. **4** as part of the method of forming a curb in accordance with an embodiment of the present disclosure.

After a curb segment has been cast, such as shown in FIG. **4**, the curb forming tool **100** is slid down the curb **300** off of the curb segment that has just been cast, in the illustrated embodiment, in the direction of the first side of the curb forming tool. In the illustrated embodiment, the first end of the curb forming tool **100** remains adjacent to the visible edge **220** of the strip **210**. In FIG. **5** several segments of the curb **300** have already been cast. The process illustrated in FIG. **5** is repeated until the plurality of curb segments required to cast the curb have all been cast.

FIG. **6** illustrates using the curb forming tool to smooth the curb of FIG. **4** and FIG. **5** as part of the method of forming a curb in accordance with an embodiment of the present disclosure.

In an embodiment, after a number of curb segments have been cast, the appearance of the curb **300** can be refined by smoothing the curb. In the illustrated embodiment FIG. **6**, the curb forming tool **100** has been rinsed with water and the curb forming tool is then slid down at least a portion of the curb **300**, thereby smoothing that portion of the curb.

In various other embodiments, the appearance of a curb cast using the curb forming tool can be further refined by buffing the cast curb with a wet sponge before the curb has fully dried. Minor defects in the curb, such as holes or pits, can be repaired with a wet cement mixture.

In various embodiments, finished curbs can be sustained, painted, etched. Colors designs and textures can be added to wet concrete. Using the curb forming tool illustrated in FIG. **1** and FIG. **2**, the finished curb is approximately 7 inches wide and about 4 inches high and made of solid concrete. Grass and weeds do not grow under it or through it. The curb sits directly on the ground, the same as with professional curbing contractors. Installation is the same in all geographic locations regardless of seasonal climate change.

In the foregoing specification, the disclosure has been described with reference to specific exemplary embodiments thereof. It will be evident that various modifications may be made thereto without departing from the broader spirit and scope as set forth in the following claims. The specification and drawings are, accordingly, to be regarded in an illustrative sense rather than a restrictive sense.

The invention claimed is:

1. A curb forming tool comprising:

a sheet composed of a single portion of a rigid material, the sheet having a top surface, a bottom surface opposing the top surface, a first side having an edge, the first side being curved upward adjacent to the edge of the first side that terminates above the top surface of the sheet, a second side, opposing the first side of the sheet and having an edge, the second side being curved upward adjacent to the edge of the second side that terminates above the top surface of the sheet, a sheet width separating the first side of the sheet and the second side of the sheet, a rear wall defining a first end of sheet and spanning the sheet width, and a front wall defining a second end of sheet and spanning the sheet width, the sheet having top wall portions being formed into a curved configuration and defining a space between the first end and the second end of the sheet, the front wall, the rear wall, and the top wall portions define a volume in open communication with the first side of the sheet and the second side of the sheet and the first and second sides having the curved orientation extending continuously along the first and second sides that separate the first and second ends of the sheet; and

a handle attached to the top surface of one of the top wall portions of the sheet.

2. The curb forming tool of claim **1**, wherein the top wall portions of the sheet comprises a first flat surface, a second flat surface, and third flat surface, wherein the first flat surface is connected to the second flat surface at a first angle, and the second flat surface is connected to the third flat surface at a second angle.

3. The curb forming tool of claim **2**, additionally comprising the handle attached to the second flat surface of the top surface of the sheet.

4. The curb forming tool of claim **1**, wherein the rigid material is one of the group consisting of: plastic, wood, metal, fiberglass, and silicone.

5. A curb forming tool comprising:

a sheet composed of a single portion of a rigid material, the sheet having a top surface, a bottom surface opposing the top surface, a first side having an edge, the first side being curved upward adjacent to the edge of the first side that terminates above the top surface of the sheet, a second side, opposing the first side of the sheet and having an edge, the second side being curved upward adjacent to the edge of the second side that terminates above the top surface of the sheet, a sheet width separating the first side of the sheet and the second side of the sheet, a rear wall defining a first end of sheet and spanning the sheet width, and a front wall defining a second end of sheet and spanning the sheet width, the sheet having top wall portions being formed into a curved configuration, having a first flat surface, a second flat surface, and third flat surface, and defining a space between the first end and the second end of the sheet, the front wall, the rear wall, and the top wall portions define a volume in open communication with the first side of the sheet and the second side of the sheet and the first and second sides having the curved orientation extending continuously along the first and second sides that separate the first and second ends of the sheet, wherein the first flat surface is connected to the second flat surface at a first angle, and the second flat surface is connected to the third flat surface at a second angle;

and a handle attached to the second flat surface of the top surface of the sheet.

* * * * *